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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,501	11/14/2003	Dengzhi Zhang	VWE-004	1016
22888 7590 10/16/2007 BEVER HOFFMAN & HARMS, LLP TRI-VALLEY OFFICE 1432 CONCANNON BLVD., BLDG. G LIVERMORE, CA 94550			EXAMINER BLOOM, NATHAN J	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 10/16/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/714,501

Applicant(s)

ZHANG ET AL.

Examiner

Nathan Bloom

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 11, 12, 20 and 37 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19, 21-23, 36 and 38-40 is/are allowed.
- 6) ☒ Claim(s) 1-2, 7, 10, 13, 15-16, 18, 24-29, 31, and 33-35 is/are rejected.
- 7) ☒ Claim(s) 3-6, 8-9, 14, 17, 30, and 32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Applicants' response to the last Office Action, filed on July 16<sup>th</sup>, 2007 has been entered and made of record.

#### ***Response to Arguments***

1. Applicant's arguments filed 07/16/2007 have been fully considered but they are not persuasive.

With respect to Applicants' argument on pages 13-14 of claims 1-2, wherein the interpretation of the reference Uz is being questioned. Applicants' argue that Uz discloses both an activity and complexity measure that are used in Uz's system/method of calculation and distributing the bits among the macroblocks of the frame. These facts are true but the claim requires only that there be a calculated complexity ratio, and the proportion of the amount of activity in a macroblock as compared to the total activity of the macroblocks is a measure of the coding complexity of the block and thus one of skill in the art could reasonably interpret this as a complexity ratio. Now, in addition to this activity measure described by Uz there is also a complexity measure, but this is in addition to the complexity ratio and thus Uz at least has a "calculated complexity ratio". Additionally, applicant has amended claim 1 to state that the method of claim 1 is performed on the current frame. In lines 4-10 of column 13 Uz performs this for each "section" these sections (depending on how frame was broken up) are the macroblocks that are portions of an entire frame. Also, it is obvious from Uz's disclosure that the frame being measured and operated on is any frame other than the "current" frame. Also,

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claims 24 and 27 were amended like claim 1 and as per the discussion above these additional amendments have been disclosed.

Applicants' argument for claim 2 is that Uz does not disclose local complexity and global complexity as defined by applicants' disclosure. In response to this the Examiner would like to point out that the definition of the local/global complexities are not explicitly defined in the specification and that the claim language (including these terms) are interpreted based on the context of their use in the claim and what this would convey to one of ordinary skill in the art. The Examiner's current interpretation is that global refers to the entire frame whereas local refers to a single macroblock within that frame, and based on this interpretation the local (macroblock) and global (frame) are used as a ratio to proportionally allocate the bits. The amendment to this claim adds that a local complexity of the current frame is calculated, and that the global complexity is calculated for a plurality of frames. The examiner would like to point out that at least one local complexity is calculated for each frame since each frame consists of at least one macroblock, and that the global complexity (total activity per frame) is calculated for each of the plurality of frames in the video. Also, 28 was amended like claim 2 and as per the discussion above these additional amendments have been disclosed.

#### ***Response to Amendment***

35 USC 112 first paragraph rejections to claims 11-12 are withdrawn as these claims were cancelled in the applicants' amendments.

Examiner acknowledges that claims 11-12, 20, and 37 have been cancelled.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 7, 15-16, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Uz (US 5682204).

As per the discussion above of applicant's arguments and amendments to claims 1-2 the prior art rejections of claims 1-2, 7, 15-16, and 18 are maintained (see previous office action for details of the prior art rejections).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uz in further view of Golin (US 5265180).

As per the discussion above rejection of claims 1-2 are maintained in view of the discussion of applicants' arguments and amendments. Therefore, all prior art rejections of the dependent claims (claims 10 and 13) are being maintained (see previous office action for details of the prior art rejections).

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6. Claims 24-29, 31, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uz.

As per the discussion above of applicant's arguments and amendments to claims 24-29 (claims 1-2) were not enough to overcome the presented art rejections of claims 24-29 (claims 1-2).

Furthermore, the rejections of dependent claims 31 and 33-35 are maintained (see previous office action for details of the prior art rejections).

***Allowable Subject Matter***

7. Claims 19, 21-23, 36, and 38-40 are allowed.

Applicants combined claims 20 and 19 and similarly combined claims 37 and 36. As per prior office action the limitations of claims 37 and 20 were not found in the known prior art. Thus the combination of these claims with their corresponding independent claims places these and their dependent claim (21-23 and 38-40) in condition for allowance.

8. Claims 3-6, 8-9, 14, 17, 30, and 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As per the prior office action and the updated search the limitations of claims 3-6, 8-9, 14, 17, 30, and 32 were not found in the known prior art.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Yu (US 2004/0230425 – variable bit rate audio coding based on complexity (energy)).
- Song (US 2004/0179596) – bit budgeting based on complexity.
- Wang (US 6493388) – rate control based on complexity.
- Kaye (US 2006/0062293) – bit rate allocation based on local/global macroblock activity.
- Liu (US 6731685) – bit Need Parameter calculated based on ratios of motion, activity in each frame type.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Bloom whose telephone number is 571-272-9321. The examiner can normally be reached on Monday through Friday from 8:30 am to 5:00 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed, can be reached on 571-272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NB

A handwritten signature in black ink, appearing to read 'S. Ahmed', with a large, sweeping loop at the end.

SAMIR AHMED  
PRIMARY EXAMINER